

- the estimated demand for those electronic interfaces for each quarter in 1997;
- the time it will take to add additional electronic capacity per function and sub-function;
- the monthly capacity Ameritech has available to permit manual intervention on an electronic transaction when it is necessary to handle that particular transaction for each quarter in 1997;
- the estimated demand for those manual interventions for each quarter in 1997; and
- the time it will take to add additional manual capacity per function and sub-function.

**Q. Would you explain the acronyms and abbreviations in your matrix?**

A. Yes. The acronyms in the column labeled "Interface" refer to the interface or data format used for that particular function or sub-function. Some data formats are unique to certain services. For example, for order entry, EDI is specific to resale and unbundled local switching. ASR is specific to the remaining unbundled network elements (e.g. loops and unbundled transport).

The next five columns across the matrix show the planned monthly capacity and estimated monthly demand for each of the OSS function and sub-function interfaces (in thousands) on a quarterly basis and on a cumulative basis for 1997.

The figures preceded by a "C" represent capacity and the figures preceded by a "D" represent forecasted demand for the region as a whole, based on an aggressive market entry scenario. The difference between the "C" and "D"

figures represents spare capacity that will be available in the event that actual demand outstrips forecasted demand.

Using resale order entry as an example, the estimated monthly resale (i.e., EDI) demand for the first quarter of 1997 is 34,000 resold orders. The planned capacity, however, would accommodate 100,000 orders per month, leaving spare capacity for an additional 66,000 orders. This means that Ameritech's forecasts would have to be off by more than 300% for resale order entry capacity to exhaust during the first quarter of 1997.

In this analysis, orders translate directly into lines. For planning purposes, Ameritech used an average of one line per order. In the real world, however, there are an average of 1.75 lines per order (because of multi-line business customers and two-line residence customers). Therefore, the capacity figures on my chart understate how many lines would actually be processed if the Company received the stated number of orders.

**Q. How did Ameritech determine how much spare capacity to install?**

A. Ameritech's planning approach was to size these OSS function's and interfaces with at least a six-month lead. In other words, Ameritech has installed enough capacity on January 1, 1997, to more than meet expected demand six months later

(i.e., on July 1, 1997). Similarly, the July 1, 1997, capacity will be sized to more than satisfy anticipated end-of-year demand (i.e., on December 31, 1997).

**Q. Did the carriers provide specific forecasts that could be used by Ameritech in sizing these interfaces?**

A. Yes and no. We asked all of the carriers which could be expected to use these interfaces in 1997 to provide both a "rolling" six-month demand forecast and monthly updates. MFS and USN provided the requested forecasts. AT&T has recently provided resale forecast and although these new forecast are not reflected in the demand forecast shown in Schedule 1, we have made the necessary capacity changes to ~~Schedule~~<sup>Ex</sup> 1. Other carriers, like MCI and Sprint, provided no information whatsoever.

**Q. Please describe your capacity planning for pre-ordering.**

A. Capacity planning for customer service records ("CSR") was based on Ameritech's current average of 1.75 telephone lines per customer account. When a CSR request is made, all lines on the account are provided. Capacity planning for telephone number requests was based on Ameritech's current average that 15% of all customer orders require a telephone number. Using this factor is conservative, since many resale orders are likely to be assumptions of existing

Ameritech accounts and, therefore, will not require a new telephone number.

Capacity planning for due date assignment was based on Ameritech's current average that 25% of all customer orders require a premises visit. This includes installation of new and additional lines, and inside wire work. Electronic capacity for feature availability and address validation was assumed to be unlimited, because this data is provided to the requesting carrier by electronic file transfer and subsequent accessibility is under the sole control and capacity of the requesting carrier's system.

**Q. What level of 1997 demand has Ameritech forecasted for its resale interfaces?**

A. Ameritech's "Cumulative 1997" demand forecasts assume 724,438 resale service orders on a regional basis. The planned capacity, however, will handle 1,650,000 orders.

**Q. Is this capacity sufficient to accommodate potential demand by carriers like AT&T, MCI, and Sprint?**

A. Yes. The demand forecast I just identified exceeds the forecasts provided by MFS, USN, and AT&T in order to allow for the potential demand of other large carriers. Moreover, the capacity available exceeds even these forecasts.

**Q. Why do you say that the planned capacity for resale order entering has been conservatively estimated?**

A. The "planned" capacity for resale order entry using the EDI interface, as shown on Schedule 1, was based on a number of conservative assumptions. First, Ameritech assumed an average of one access line per resale service order. In Ameritech's actual experience, however, there are an average of 1.75 access lines per resale service order (because of multi-line business customers and two-line residence customers). Therefore, the capacity figures on Schedule 1 understate by approximately 40 percent - how many access lines would actually be processed if Ameritech received the stated number of resale orders for 1997.

Second, Ameritech assumed that orders would be processed during normal business hours (7 a.m. to 7 p.m., Monday through Friday). This results in a conservative capacity estimate since Ameritech's computer systems are designed to operate 24 hours a day, 365 days per year. Therefore if demand required longer hours of operation, including a "7 x 24" operation, capacity could almost triple, from 60 hours per week (12 hours x 5 days) up to 168 hours per week (24 hours x 7 days).

In addition, the "planned" capacity figure used in Schedule 1 is significantly lower than either designed capacity or potential peak capacity. For example, for

the first three months of 1997, we assumed a system capacity of 400 orders per hour, rather than the 600 orders per hour for which the system was designed, or the current peak capacity (as measured by volume testing) of a least 900 orders per hour. During the remaining nine months of 1997, based on forecasted demand, we plan to add additional capacity, which will quadruple system capacity. Again, however, in estimating capacity for planning purposes, we assumed a sustainable volume of 400, 1000, and 1300 orders per hour, rather than the designed capacity of approximately 600, 1600, and 2100 orders per hour.

Planned capacity for 1997 was calculated as follows:

First 3 Months of 1997	Planned Capacity
(400 orders per hour x 12 hours per day x 20.6 days per month x 3 months)	296,640
Next 6 Months of 1997	
(1000 orders per hour x 12 hours per day x 20.6 days per month x 6 months)	1,483,200
Last 3 Months of 1997	
(1300 orders per hour x 12 hours per day x 20.6 days per month x 3 months)	964,080
Total Orders	2,743,920

Changing any one our conservative assumptions would substantially increase these figures. For example, if we continue to assume one line per order (rather than 1.75) and only 12 hours per day (rather than 24), but use designed system capacity (i.e., 600 orders per hour, 1600 order per hour, and 2,100 orders per

hour), then cumulative capacity for 1997 increases from 2,743,920 orders to approximately 4,375,440 orders:

First 3 Months of 1997	Designed Capacity
(600 orders per hour x 12 hours per day x 20.6 days per month x 3 months)	444,960
Next 6 Months of 1997	
(1600 orders per hour x 12 hours per day x 20.6 days per month x 6 months)	2,373,120
Last 3 Months of 1997	
(2100 orders per hour x 12 hours per day x 20.6 days per month x 6 months)	1,557,360
Total Orders	4,374,440

This "designed" capacity could, again, be almost tripled if hours and days of operation were maximized.

**Q. What about unbundled network elements?**

A. Ameritech has built substantial spare capacity into its interfaces for unbundled network elements as well. For example, Ameritech is forecasting "Cumulative 1997" regional demand for 136,000 unbundled network element (i.e. ASR) orders. The end-of-year planned capacity of the (ASR) interface is 360,000 unbundled network element orders.

**Q. Has Ameritech installed capacity for electronic transactions that require manual interaction?**

A. Yes. As shown on my Schedule 1, Ameritech has built in a substantial amount of spare capacity for electronic transactions that require manual intervention.

**Q. Why do some electronic transactions require manual intervention?**

A. Certain types of electronic orders necessarily require manual intervention because of their content or complexity. For example, if a carrier takes over only a subset of a customer's lines, then the customer account would have to be split and a new account established for the lines remaining with Ameritech Wisconsin. Orders involving Centrex, private lines and listing changes also typically require manual intervention because of downstream system complexities. Some orders may also require manual handling for due date assignment, facility assignment or for other reasons.

**Q. Please explain the OSS Manual Capacity assumptions in Schedule 1.**

A. Manual ordering capacity planning is based on service representatives processing 50 orders per day or 1000 orders per month. The pre-ordering function of due date selection and telephone number selection are included in the 1000 orders per month capacity. CSRs are processed by clerical positions with a capacity of



2,300 per month. Maintenance capacities are based on the ability of a maintenance technician to process 256 trouble reports per month. Manual capacities are based on an eight hour work day and a five day work week.

**Q. How can you be sure that the hardware installed will support the capacities you have given?**

A. Ameritech designed its system to accept and process peak volumes of 600 orders per hour with a sustainable volume of 400 orders per hour. To verify that capacity, the Company has conducted peak load tests. The Company created 3,600 orders, some of which required manual intervention and some of which did not. These orders were then sent to the order entry interface over a four hour period (900 per hour). All 3,600 orders were completed by the Company's systems.

This volume testing indicates that the peak capacity of these systems is at least 900 orders per hour-- not the 600 orders per hour that the system was designed for. Testing was not extended to determine the true peak capacity.

These capacity tests suggest that all of the capacity figures on my Schedule 1 are understated. The designed 400 order-per-hour sustainable capacity of the existing hardware that was assumed for capacity planning purposes was premised on a 600

order-per-hour peak assumption, not 900 orders per hour. If one assumed that the capacity of the existing hardware is the 900 orders per hour achieved during capacity testing, and that those orders were processed 24 hours a day, 365 days a year, total system capacity for 1997 would be almost 8 million orders.

**Q. Please explain the capacity assumptions for provisioning in Schedule 1.**

A. There are three provisioning sub-functions. First, a firm order commitment is provided for each order entered. Electronic capacity for firm order commitment is the same as for order entry discussed above. Second, an electronic change in status sub-function provides an electronic report for orders in jeopardy, three times daily. Capacity planning was based on Ameritech's current average of 3% of all orders being in jeopardy daily. The average rate of 3% is applied to a cumulative count of all orders over a three day period. Finally, an order completion notice is sent for each order entered. Electronic capacity for this sub-function is equal to electronic order entry capacity.

**Q. Please explain the capacity assumptions for maintenance and repair in Schedule 1.**

A. Through the T1M1 interface, Ameritech enables requesting telecommunications carriers to electronically transmit Ameritech a trouble report and receive an initial

status, based on preliminary testing, and an appointment commitment. Ameritech also provides to requesting telecommunications carriers an update to the trouble report status each time that status is updated by Ameritech personnel, including a completion report. Capacity planning for the repair sub-function was based on Ameritech's current average monthly failure rate of 3.5% on the cumulative line base, this would equate to having 3.5 trouble reports for every 100 lines in service. Of these reports received by Ameritech about 70% of them are resolved with no trouble found because through interviewing the user it is determined that the trouble is in their equipment or because of misunderstanding on how features work. It can be assumed that the CLEC would clear these types of trouble with the customer and only report the remaining 30% to Ameritech. The report rate that Ameritech would expect to receive from the CLEC would be 1.5% (30% of 3.5%). Capacity planning for the modify trouble report sub-function was based on Ameritech's current average that 15% of all trouble reports are modified during the duration they are open.

**Q. Please explain the capacity assumptions for billing in Schedule 1.**

**A.** Capacity planning for daily usage information assumed the ability to store three months of daily usage files for the specified number of lines. Capacity is stated in lines.

**Q. Does Ameritech track and monitor demand levels for the OSS function interfaces supporting resale and unbundled network elements?**

A. Yes. Ameritech tracks actual demand levels for the OSS function interfaces supporting resale and unbundled network elements on a monthly basis, comparing actual to forecast. In the event that actual demand overruns the forecast, Ameritech will immediately review its capacity plans to ensure that capacity remains sized to handle demand six months in advance. If this requires addition of new capacity, or advancement of planned capacity additions, those changes will be made. Because of the six-month advance planning approach, there should always be ample time to expand capabilities before the demand materializes.

**Q. What is required to expand OSS function interface capacity?**

A. There are two dimensions to expanding OSS function and interface capacity: (1) the "front end" systems which must be augmented to permit processing of more transactions; and (2) the additional network and transmission facilities which may have to be installed to connect the front end systems to Ameritech Wisconsin's "back room" internal network operations support systems. The front end systems consist primarily of hardware (i.e., mid-range computers or "servers"). The

requirements for expanding the Company's ability to process electronic orders that require manual intervention is primarily workforce-related.

**Q. What time intervals are required to expand capacity for the OSS function interfaces?**

A. The last column on my Schedule 1 labeled "Time to Add Capacity" reflects the time intervals for each of the OSS functions and sub-functions, both electronic and manual. I will use order entry as an example.

The hardware used at the front end of the order entry process consists essentially of mid-range computers that are readily available in the marketplace. Normal order, delivery and installation intervals for such products run approximately 90 days. Management of these computer systems is currently out-sourced to IBM, which has unparalleled access to computer hardware.

The workforce component of expanding order entry capacity is readily manageable. Basic training on these order entry systems can be accomplished in about two days if the employee is familiar with the Company's business. It would take about 30 days before that employee is assumed to function at a fully efficient level, but orders would be processed during this entire period. The Company can also shift existing employee resources between functions (e.g., if resale demand

was higher than expected and unbundled loop demand was lower than expected, service representatives can be shifted from loops to resale). Finally, existing employees can and do work whatever overtime hours are necessary to ensure that service orders are processed on a timely basis.

**Q. What about the transmission and networking capabilities required to connect the front end systems to the downstream systems?**

A. These facilities are part of Ameritech Wisconsin's own internal network and can be readily expanded within the 90-day period required for the computer facilities at the front end.

**Q. Can manual processing provide a solution to electronic interface capacity problems?**

A. Absolutely. As I indicated previously, the Company has built substantial spare capacity into its manual processing capabilities.

**Q. How does the speed of manual processing compare with electronic processing?**

A. It would be virtually indistinguishable to the carrier from a marketplace perspective. Manual orders which are received by 3:00 P.M. on a given business day are processed that business day. Manual orders received after 3:00 are

processed the next business day. It should be noted that, regardless whether an order is electronically processed or manually processed, the service order interval would be the same (i.e. the time in which the service order would actually be completed) and the due date of the order is received and committed to, using the pre-ordering interface, before the need for manual intervention, if any, is determined.

Manual order handling capacity can generally be expanded in a 6-week time frame. The principal exception is repair and maintenance which for planning purposes is assumed to require a 12-week interval, to allow for the need to hire new installation and maintenance personnel off the street.

**Q. Could the Company expand its hardware facilities or workforce capabilities faster than the intervals in Schedule 1?**

A. Yes. The 90 day interval for computer hardware reflects standard provisioning intervals for the front end systems. Equipment can also be obtained on an expedited basis, albeit at higher cost. If a capacity crisis were to develop for the electronic interfaces (which is highly unlikely), additional front-end hardware capacity could be made operational in 4 weeks or less. Manual capacity for both ordering and repair and maintenance could be expanded in 1 week in an emergency.

**Q. Do you anticipate any increases in repair and maintenance activity over current levels as a result of resale or continued purchase of unbundled loops?**

A. No. As long as the resold lines and/or unbundled loops are associated with existing customers, overall repair and maintenance activity should remain relatively constant. The source of the trouble report simply shifts from the end user to the end user's new carrier. If there is an overall increase in the number of installed lines, then there could be an increase in the overall number of trouble reports. However, a certain amount of spare capacity has been built into the repair and maintenance systems to address this possibility, as shown in my Schedule 1.

**Q. Do you expect the sizing of the Company's systems to become an easier process in the future?**

A. Yes. As the marketplace develops, Ameritech expects to establish a process for demand forecasting that will eliminate much of the current uncertainty.

**Q. Are forecasts typically shared between suppliers and purchasers?**

A. I would expect so. That is because it is in purchasers' business interests to have available to them sufficient capacity or inventory to meet their operating needs over a planning horizon and it is in their suppliers' business interests to have that capacity/inventory on hand.



Forecasts are certainly common in Ameritech Wisconsin's relationships with its suppliers. For example, Lucent(formerly AT&T) has used very rigorous forecasting procedures with the RBOCs when it is on the other side of the supplier/purchaser relationship -- i.e. when it is the supplier. Under Ameritech Wisconsin's equipment contracts with Lucent, Ameritech Wisconsin provides forecasts of demand for its services (e.g., access lines and features) by class of service, by central office, by month, for a rolling 6-month period. These forecasts are updated quarterly. Lucent then uses this data to project growth jobs for Ameritech Wisconsin's central offices. Lucent imposed significant financial penalties on Ameritech Wisconsin if it under purchased or over purchased equipment relative to its forecasts through adjustments to the purchase price. Similar forecasting procedures are in place with Ameritech Wisconsin's suppliers for other network equipment, such as fiber and electronic components.

**Q. What are the procedures for notifying users of impending changes in the interface, and the extent to which users will have input the modification process?**

A. Ameritech has worked, and will continue to work, with CLEC's to facilitate appropriate changes to the interfaces. For example, we are currently involved with an effort with Sprint, AT&T, and MCI, initiated at Sprints's request, to

assess the impacts of TCIF Release 7.0. Changes made to the interfaces, that do not impact the CLEC, will continue to be made on a regular bases. Changes that substantially impact CLEC will be made after analyzing the impact to the CLECs. Specifications for CLEC effecting changes will be provided to the CLEC no later then 60 days prior to implementation of the change

**Conclusion**

**Q. In summary, are Ameritech Wisconsin's OSS function interfaces sized to meet anticipated demand and will they operate successfully on a commercial basis?**

A. Yes. Ameritech Wisconsin's OSS interfaces are operational, available, and are being furnished to all requesting telecommunications carriers today. The interfaces are more than adequately sized to meet demand, and are expandable on a timely basis, so that the Company can rapidly respond to any changes in marketplace demand.

**Q. Does this conclude your testimony?**

A. Yes.

**REBUTTAL TESTIMONY OF  
JOSEPH A. ROGERS**

**Q. Please state your name and business address.**

**A. Joseph A. Rogers, Ameritech Industry Information Services, 350 N. Orleans,  
Chicago, Illinois 60606.**

**Q. Are you the same Joseph A. Rogers who submitted previous testimony in  
this Docket?**

**A. Yes, I am.**

**Q. What is your principal reaction to the direct testimony of AT&T witness,  
Timothy M. Connolly?**

**A. In direct contrast to Mr. Connolly's assertions, both the test data and actual  
implementation data confirm that Ameritech's operations support systems are  
fully functional and capable of supporting all realistically foreseeable  
commercial activity.**

For all interface functions provided by Ameritech's OSS, the data developed  
either through testing or through actual implementation shows conclusively that  
the Ameritech systems work.

- Q. Do you agree with Mr. Connolly's statement that operational readiness cannot be unilaterally declared by the systems provider?**
- A. Not in the manner asserted by Mr. Connolly. While the purpose of the OSS interfaces is to permit access to Ameritech's OSS functions, Ameritech's role in the provisioning of that access is to make such access possible in a commercially reasonable way, as Mr. Connolly concedes at Page 10, line 18, of his direct testimony. Ameritech's interfaces are in fact operational and not only can but do in fact provide non-discriminatory access to all OSS functions.
- Q. Does that mean that all prospective CLECs are able uniformly and without error to interface with Ameritech's OSS functions?**
- A. No. What Ameritech is able to do is to provide access to those functions. It then becomes the responsibility of each CLEC to structure, organize and manage its own internal systems properly to interface with Ameritech's in order to take full advantage of the OSS functions made available to them through Ameritech's interfaces.
- Q. Does the test data to which Mr. Connolly refers in his testimony support his contention that Ameritech's OSS interfaces are not ready for commercial application?**
- A. No. To the contrary, they demonstrate that the Ameritech systems are fully functional and capable of handling accurately and timely all properly submitted orders.

**Q. Mr. Connolly identifies test data from tests performed in Michigan and Illinois in connection with his testimony. Can you explain what that test data actually shows?**

**A.** Yes. Both the test data from Illinois (TMC-5) and the test data from Michigan (TMC-9) identify the same errors AT&T has been encountering for months. Obviously, AT&T has not yet resolved the source of those errors within its own systems. For example, the rejection of an order because the order number already exists was the single largest reason for order rejection in Illinois and the second largest reason for rejection in Michigan. This error was first identified by AT&T as its problem in October, 1996. Mr. Connolly has conceded in his testimony in Illinois that this is a problem which AT&T has simply been unable to correct.

As a further example, the second greatest reason for order rejection in the Illinois testing ("order for existing AT&T account") is attributable solely to an error in AT&T's ordering process which allowed AT&T to submit an order to assume an account to which AT&T already provides service. In his testimony in Illinois, Mr. Connolly conceded that, with respect to this issue, "Ameritech's systems are not the problem; that's correct."

**Q. Mr. Connolly points to the testimony of Illinois Commerce Commission staff representative Jake Jennings for the point that the completion of internal testing of various OSS interfaces does not provide assurance that other carriers will be able to utilize the OSS. Do you agree?**

A. As demonstrated by the testing just referred to, the fact that our system works does not guarantee that other carriers will be able to conduct their business without error. Even Mr. Jennings pointed this out in his testimony when he said: "There may be oversights in a carriers' implementation of Ameritech's OSS specifications manuals." (See TMC-2, p.2) In other words, Ameritech can do all that it can, and in fact has done so, to make access to its OSS interfaces readily available in a commercially reasonable manner to all CLECs. Whether or not the CLECs are able to take advantage of that opportunity is beyond our control.

**Q. Do you agree with Mr. Connolly's assertion that the lack of, or changes in, interface specifications is interfering with CLEC interconnection?**

A. No. The addition of functionalities to the published specifications subsequent to the August 1996 release did not interfere with any development which CLECs would have had under way based upon the specifications published in August 1996. Those changes cannot reasonably be understood as interfering with or precluding functional access to Ameritech's OSS functions.

The next change in specifications is scheduled for April 1997. All necessary specifications describing this change were provided to all CLECs, or prospective CLECs, in February 1997.

**Q. Do you agree that some system of routinized announcement of changes in specifications is necessary?**

I agree with the general observation that Ameritech needs to provide uniform and adequate notice of prospective specification changes in time sufficient to permit necessary adjustments or accommodations by CLECs. In fact, a routine system to accomplish this will be introduced shortly. It is unreasonable, however, to expect lead times of 3, 6 or 9 months in all instances, as suggested by Mr. Connolly. As he suggests, technological, industrial and economic developments do not allow such long lead times in a fully competitive market place.

**Q. Is Ameritech building its OSS interfaces to recognized national standards?**

**A.** There are no uniform, fully mature, mandatory national standards to which any of these interfaces may or must be built. However, Ameritech recognizes the value of uniformity and, as stated in my direct testimony, Ameritech is committed to developing its interfaces to the maximum extent possible consistent with evolving "national" standards. To that end, Ameritech's system does not use any proprietary systems.

**Q. With this background, how do you respond to the lament of MCI's witness, Mr. Edgerly, over the absence of national standards?**

A. Ameritech's commitment to make its data bases and functions available to CLECs through electronic interfaces is both driven by and consistent with the requirements of the Telecommunications Act of 1996. Mr. Edgerly's proposals for standards are just that -- premature proposals which are themselves currently under study and which, presumably, will lead eventually to the evolution of standards to which all RBOCs will build.

Q. Have you reviewed the direct testimony of Commission staff representative, Ms. Anne Wiecki?

A. Yes, I have.

Q. Do you agree with her characterization that "1P" processing errors demonstrate that the interface program "still has bugs to work out"?

A. No, I do not. A "1P" type error results when orders are accepted into Ameritech's downstream systems and upon subsequent processing an error is encountered that requires the order to be modified before the order can continue processing. These types of errors also occur when Ameritech retail service representatives enter orders. In the case of the OSS interface, this type of error results in the order being flagged for manual intervention and requires the Ameritech Service Representative, in most cases, to make only slight modifications to the order. Ameritech's OSS interface developers use the



occurrence of such errors to provide correcting edits in the interface so that, in the future, similar occurrences immediately will be called to the attention of the interfacing CLEC and the order can properly be entered by the interfacing CLEC. This is not a problem or a "bug" in the system. Rather, it is a tool used to identify additional opportunities for the mechanized processing of orders. Ms. Wiecki is correct in her assessment that the occurrences of 1P are decreasing. At the same time "1P" errors are decreasing, the mechanized flow-through rates are increasing.

**Q. Have you reviewed Ms. Wiecki's opinions in which she purports to find a correlation between the frequency of missed due dates and whether the underlying order was processed manually or electronically?**

**A. Yes, I have.**

**Q. Can you comment upon her opinions?**

**A. I do not know how Ms. Wiecki made the calculations upon which she relies and so I am not able to agree or disagree with the arithmetic in her testimony. I do believe that her analysis didn't go far enough. After reviewing the additional data provided to staff that identifies the number of times the due date was changed on an order processed with manual intervention and those processed entirely electronically, I believe this additional data better reflects the real effect -- or more accurately, the lack of any material effect -- of manual**